



# City of Vancouver *Planning - By-law Administration Bulletins*

Planning, Urban Design and Sustainability Department

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## **FLOOR AREA EXCLUSIONS FOR KITCHEN EXHAUST DUCTS AND SHAFTS (New Buildings)**

*Authority - Director of Planning*

*Effective April 28, 2015*

*Amended August 26, 2019 and November 14, 2022*

### **Introduction**

On April 28, 2015, City Council enacted amendments to the Zoning and Development By-law (section 10.16) to allow floor area exclusions for interior vertical kitchen exhaust shafts that are provided from commercial units on the ground floor to the roof of a multi-storey building. The proposed exclusion would provide up to a maximum of 3.7 m<sup>2</sup> per floor above the first storey.

### **Commercial Cooking Ventilation**

Removal of smoke and grease-laden vapors from commercial cooking equipment must comply with NFPA 96 “**Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations**” in accordance with the Vancouver Building By-law.

### **Duct and Shaft Requirements in New Mixed Use Buildings**

Commercial units in mixed use buildings may change from a retail to restaurant use or have commercial kitchens installed as Retail – Limited Food Service use, and it is often difficult to achieve an acceptable location for kitchen exhaust terminations if the ducts and shafts were not installed when the building was originally constructed. Therefore, the provision of an acceptable kitchen exhaust location at the base building construction stage for new buildings is required as a condition of any discretionary approval by the Director of Planning. Moreover, commercial kitchen exhaust terminations should be located so that they do not negatively impact the building design or the liveability of nearby properties (i.e. too close to the windows of residential, office or amenity space).

- (a) An acceptable kitchen exhaust location is required to be provided for all new buildings with commercial uses that require discretionary approval by the Director of Planning. Generally, roof terminations are preferred and wall terminations should exhaust to a lane with an ecology unit.
- (b) Each commercial unit should have a route shown on the plans that indicates where the future kitchen ventilation exhaust will be located.
- (c) Mixed use buildings up to and including 8 storeys, or where required by the Director of Planning, are to provide an interior vertical shaft(s) at the building construction stage to accommodate future kitchen ductwork to exhaust to the roof.
- (d) The shaft is required to be sized in order to accommodate all commercial units in a building, unless otherwise approved by the Director of Planning.

The following is the minimum duct and related interior shaft size required, based on the area of the commercial unit(s). Commercial units may be served by separate shafts or by a single primary shaft with horizontal ductwork connecting to all units.

**Table 1 - Minimum Duct and Exhaust Shaft Sizes**

Commercial Unit Interior Area	Minimum Equivalent Duct Size	Example Minimum Interior Shaft Size*
84 m <sup>2</sup> (900 sq. ft.) or less	0.40 m x 0.40 m (16"x16")	0.70 m x 0.70 m (28"x28")
167 m <sup>2</sup> (1,800 sq. ft.) or less	0.45 m x 0.45 m (18"x18")	0.76 m x 0.76 m (30"x30")
251 m <sup>2</sup> (2,700 sq. ft.) or less	0.58 m x 0.45 m (23"x18")	0.88 m x 0.76 m (35"x30")
Over 251 m <sup>2</sup> (2,700 sq. ft.)	0.66 m x 0.66 m (26"x26")	0.96 m x 0.96 m (38"x38")

\*12" has been added to include a 6" air gap around the duct between the duct and the interior of the shaft

- (a) For buildings where a shaft to the roof is not required, a route for the ductwork to reach a lane through a future ecology unit should be shown, except where there is no lane and another discharge location is approved by the Chief Building Official and Director of Planning.
- (b) For any kitchen exhaust ducts which are routed through another tenants' space, the duct and shaft through the other tenants' space(s) are required to be installed as part of the base building construction.

## Zoning and Development By-law

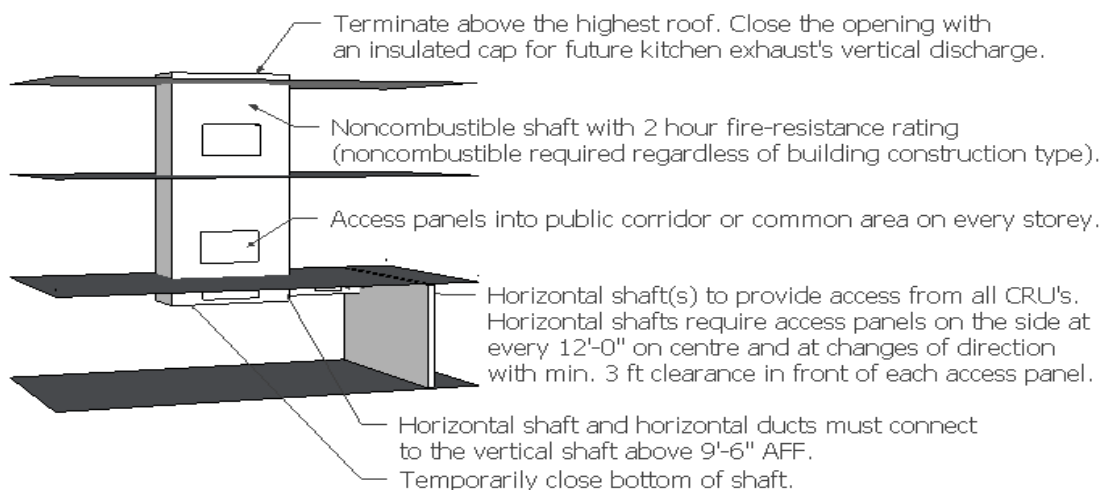
Section 10 of the Zoning and Development By-law has been amended to allow up to a maximum of 3.7 m<sup>2</sup> (40 sq. ft.) per floor to be excluded from the calculation of floor area in buildings where interior vertical shaft(s) are provided, and will enable future kitchen exhaust ductwork to reach the roof in a multi-storey mixed use building. The area to be excluded is measured from the interior face of the shaft.

## Ecology Unit

For all buildings, an *ecology* unit for a commercial kitchen ventilation system is required for:

- (a) Horizontal discharges;
- (b) Vertical discharges where there may be an impact on liveability, such as adjacent windows or decks, including the subject and adjacent properties; and
- (c) Situations as required by the Director of Planning to reduce negative impacts on liveability and the public realm, including amenity areas.

**Figure 1 - Annotated example of an excludable kitchen exhaust shaft**



## **Details for the Building Permit Stage**

- (a) Shaft(s) are to be located such that the access panels, which are required at every storey for vertical shafts, are accessible from common areas.
- (b) A horizontal exhaust termination must be located so that it is away from openable windows and complies with NFPA 96 clearances to openings.
- (c) The discharge termination grill(s) must be designed to direct the future exhaust airflow horizontally outwards or upwards.

## **References**

For additional information, refer to the Building By-law and the Kitchen Ventilation Guidelines:

<https://vancouver.ca/files/cov/2007-005-kitchen-ventilation-systems-commercial-type-cooking-operations.pdf>